

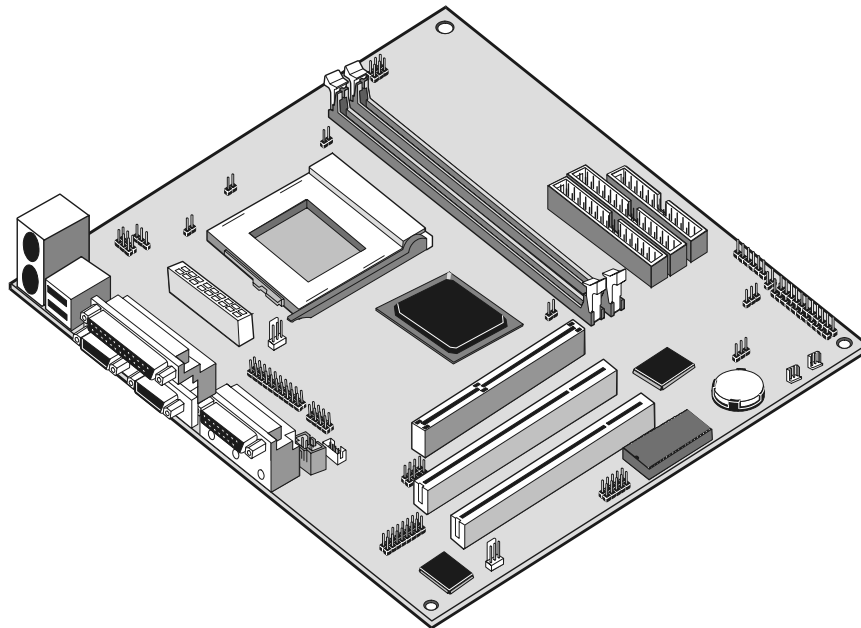
## Chapter 1: Introduction

### Welcome

Congratulations on purchasing the KOB 630e CFSFx mainboard.

The KOB 630e CFSFx mainboard is a Flex-ATX mainboard that uses 4-layer printed circuit board and measures 228mm x 190mm. The mainboard has a PPGA (Plastic Pin Grid Array) PGA370 processor socket. **This feature means that you can install the mainboard with a PPGA Celeron processor.**

The KOB 630e CFSFx is installed with the very powerful SIS630 chipset, which includes integrated **built-in video, audio, networking** (optional) and **communications** capabilities. Two 32-bit PCI expansion slots are provided, plus a riser card slot for video expansion capabilities. Two DIMM sockets are available for the installation of up to 1 GB SDRAM memory. This mainboard is an ideal platform for an inexpensive entry level or business class multimedia personal computer.



This chapter contains the following information:

- ❑ **About the Manual** explains how the information in this manual is organized
- ❑ **Checklist** comprises a list of the standard and optional components that are shipped with this mainboard
- ❑ **Recommendations** lists some Do's and Don'ts from the manufacturer to help ensure reliability and performance from this product
- ❑ **Features** highlights the functions and components that make this one of the best value mainboards on the market

## About the Manual

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The manual consists of the following chapters:

### ***Introduction***

Use the **Introduction** Chapter to learn about the features of the mainboard, and the checklist of items that are shipped with the package.

### ***Installation***

Use the **Installation** Chapter to learn how to install the mainboard and get your system up and running.

### ***Setup***

Use the **Setup** Chapter to configure the mainboard for optimum performance.

### ***Software***

Use the **Software** Chapter to learn how to use the software drivers and support programs that are provided with this mainboard.

## Checklist

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Compare the contents of your mainboard package with the standard checklist below. If any item is missing or appears damaged, please contact the vendor of your mainboard package.

### **Standard Items**

- ✓ 1 x KOB 630e CFSFx Mainboard
- ✓ 1 x Cable/Bracket Pack
  - Diskette drive ribbon cable
  - IDE drive ribbon cable
- ✓ This User's Manual
- ✓ Software Support CD-ROM Disc

### **Optional items**

- ✓ 1 x V.90 Fax/modem Card
- ✓ 1 x SIS301 Riser Card

## Recommendations

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This mainboard automatically determines the CPU clock frequency and system bus frequency for the kind of processor that you install. You may be able to change these automatic settings by changing the settings in the system setup utility. We strongly recommend that you do not overclock the mainboard to run processors or other components faster than their rated speed.

Overclocking components can adversely affect the reliability of the system and introduce errors into your system. Overclocking can permanently damage the mainboard by generating excess heat in components that are run beyond the rated limits.

Components on this mainboard can be damaged by discharges of static electricity. Handle the board carefully holding it by the edges. Don't flex or stress the circuit board. Keep the board in its static-proof packing until you are ready to install it. Follow the static guidelines given at the beginning of Chapter 2.

## Features

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The key features of this mainboard are the wide range of processors that can be installed, and the high level of integration, which includes built-in audio, video, (optional) networking, and communications.

### ***Value-class Processors***

As a platform for a value PC, the KOB 630e CFSFX includes a socket-370 for the installation of the latest PPGA packaging processors from Intel.

The new generation PPGA Celeron processors ship in the familiar square plastic package, and they install in a Zero Insertion Force (ZIF) socket called a Socket-370. The new Celeron processors are close to Pentium-II performance because they include a level-2 cache memory of 128K. However, they operate over a 66 MHz system bus and they currently ship at clock speeds of up to 533 MHz.

### ***Powerful Chipset Support***

The processor is supported by the powerful SiS630 chipset. The SiS630 includes a built-in 128-bit AGP graphics accelerator, an integrated 3D PCI audio controller, and an optionally built-in 10BaseT/100BaseTX network adapter. The SiS630 controls up to 1 GB of SDRAM memory. The chipset also supports ACPI Ver.1.0 (Advanced Configuration and Power Management Interface) and APM (Advanced Power Management) power management. It provides two PCI IDE channels with UDMA 33/66, a floppy diskette drive interface, and two bus-mastering PCI slots. The chipset meets the requirements for the PC99 specification.

### ***Inexpensive Memory***

The board has two DIMM sockets for the installation of 168-pin, 3.3V non-buffered DIMM memory modules. The DIMM memory modules must be installed with SDRAM memory chips. The KOB 630E CFSFX board supports a memory bus of 100 MHz. Each installed memory module can be populated with 16 MB up to 512 MB of memory, so a maximum total of 1 GB memory can be installed. The integrated video system uses a shared memory architecture so that you must reserve some of the installed memory as video memory using the system BIOS. You must install at least one memory module, with a minimum capacity of 16 MB, which can be installed in either available DIMM slot.

### ***Highly Integrated Design***

As well as the SIS630 chipset, the KOB 630e CFSFX features other highly integrated silicon chips. The SIS950 I/O controller handles the mainboard's I/O functions, as well as hardware monitoring. The HT8738/PCI C3DX is a two-chip solution that provides an integrated audio and fax/modem system.

### ***Built-in AGP 3D-Graphics***

The SiS630 chipset includes an integrated 128-bit 2D/3D graphics accelerator. The graphics system uses the Ultra-AGP architecture and uses a shared memory scheme that allows up to 64 MB of system memory to be used as video memory. The graphics system includes special accelerators for DVD playback and supports screen resolutions up to 1920 x 1440 and color depths up to 16 M (True Color). Driver support is provided for Windows 95/98, Windows 2000, Windows NT 4.0, and OS/2.

### ***Built-in V.90 Fax/modem (DAA Module is optional)***

The KOB 630e CFSFX mainboard has a built-in 56 Kbps fax/modem. That supports the V.90 protocol. The chip is integrated with the built-in audio system to support voice as well as data transmissions. In order to use the built-in fax/modem, you must install a DAA module that supplies the RJ11 sockets for LINE and TELEPHONE.

### ***Expansion Options***

The KOB 630e CFSFX mainboard is pre-installed with features such as audio, video, networking (optional) and a DAA module (optional) for a modem, that normally requires add-in cards, so the three 32-bit PCI slots provide plenty of expansion potential. The PCI slots support bus mastering.

### ***Integrated I/O***

The mainboard has a full set of I/O ports and connectors. The I/O template on the backplane includes two PS/2 ports for mouse and keyboard, one serial port, one parallel port, one VGA monitor port, one game/MIDI port, two USB ports and audio jacks for microphone, line-in and line-out. The board has a header for the optional installation of an IR port, a second serial port, and 24-bit digital audio. The board includes two PCI IDE channels with UltraDMA 33/66 support, and a floppy disk drive interface.

### ***Hardware Monitoring***

Hardware monitoring is fully supported and the board ships with hardware monitoring software. System assemblers and network

administrators can reduce downtime and repair costs by monitoring critical temperatures and voltages on the system. The supplied hardware monitoring software lets you set parameters that prompt warnings when they are exceeded.

#### ***Keyboard Power On Feature***

Using the system BIOS setup program, you can configure the system to turn on by using a keyboard typed password or by pressing a hot-key combination (Ctrl+Alt+Backspace). A green keyboard is not required.

#### ***Programmable Firmware***

The mainboard includes Award BIOS that allows BIOS setting of CPU parameters. The fully programmable firmware enhances the system features and allows users to set power management, CPU and memory timing, LAN and modem wake-up alarms, and so on. The firmware can also be used to set parameters for different Celeron processor clock speeds so that you don't need to change mainboard jumpers and switches.

## Chapter 2: Installation

### Quick Installation Table

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This chapter explains how to successfully install the mainboard into a computer case and build a working system. The installation procedure is as follows:

<b>Quick Jumper Setting Reference</b>	Provides a quick reference for the jumper settings on this mainboard.
<b>Before you Begin</b>	Provides advice on choosing a case, avoiding static electricity damage, and setting jumpers.
<b>Preparing the Mainboard</b>	Provides a guide to the mainboard and I/O port locations, full details on the jumper settings, and advice on installing the mainboard in the system case.
<b>Install Other Hardware</b>	Provides guidance on installing essential hardware: processor, memory, hard disk drive, CD-ROM, floppy disk drive, and expansion cards.
<b>Make the External Connections</b>	Provides advice on using the external I/O ports to install peripheral devices such as a keyboard, a monitor, a mouse, a printer, loudspeakers, and so on.

## Quick Jumper Setting Reference

If you are familiar with most of the material in this chapter, you can begin preparing the mainboard for installation by using this quick reference to begin the setting the jumpers. A detailed description of the jumper setting appears later in this chapter.

### ***JP1: Clear CMOS memory jumper***

Use this 3-pin jumper to clear all the current data stored in the CMOS memory.

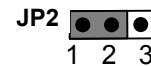
Function	Jumper Cap
Clear CMOS	Short pins 1-2
Normal operation	Short pins 2-3



### ***JP2: Keyboard power on jumper***

Use this 3-pin jumper to enable keyboard power on with hot keys or password.

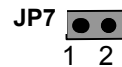
Function	Jumper Cap
Enable keyboard power on	Short pins 1-2
Disable keyboard power on	Short pins 2-3



### ***JP7: PAL/NTSC selection jumper***

Use this 2-pin jumper to set the video output from the optional TV/LCD card to either PAL or NTSC

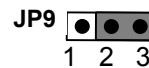
Function	Jumper Cap
Enable PAL	Short pins 1-2
Enable NTSC	Open pins 1-2



### ***JP9: Flash BIOS jumper***

Use this 3-pin jumper to allow the BIOS CMOS memory to be flashed, i.e. a new BIOS version to be written to the CMOS chip onboard.

Function	Jumper Cap
Enable Flash BIOS	Short pins 1-2
Normal operation	Short pins 2-3

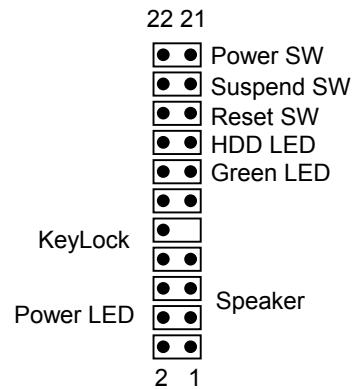


**Note:** JP3, JP4, JP5 and JP8 are featured on the board but are currently not supported.

**PANEL1: Panel connectors for switches and indicators**

Use the panel connector to implement the switches and indicators on your system case.

Function	Pins
Speaker	+1, 3, 5, 7
Power Indicator	+2, +4, 6
Keylock	8, 10
Green Indicator	13, 14
Hard Disk Indicator	+15, 16
Reset Switch	17, 18
Suspend Switch	19, 20
Power Switch	21, 22



**PANEL1**

## Before You Begin

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Before you begin to install your KOB 630e CFSFx mainboard, take some precautions to ensure that you avoid the possibility of damage to the product from static electricity. Ensure too that you are installing the mainboard into a suitable case.

### ***Static Electricity***

In adverse conditions, static electricity can accumulate and discharge through the integrated circuits and silicon chips on this product. These circuits and chips are sensitive and can be permanently damaged by static discharge.

- ◆ If possible wear a grounding wrist strap clipped to a safely grounded device during the installation.
- ◆ If you don't have a wrist strap, discharge any static by touching the metal case of a safely grounded device before beginning the installation.
- ◆ Leave all components inside their static-proof bags until they are required for the installation procedure.
- ◆ Handle all circuit boards and electronic components carefully. Hold boards by the edges only. Do not flex or stress circuit boards.

### ***Choosing a Case***

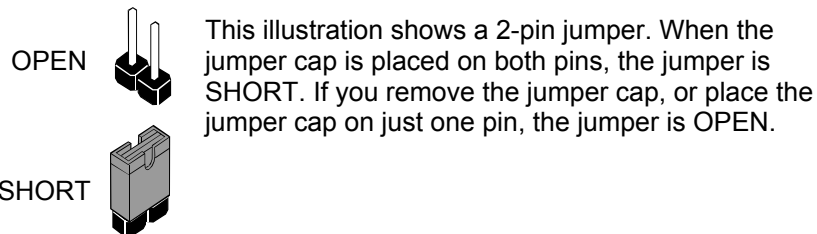
The mainboard complies with the specifications for the FlexATX system case, although it can also be installed in most micro-ATX case designs. The micro-ATX specifications include a maximum size of 9.0" x 7.5" (228mm x 190mm), a reduced number of expansion slots, and support for a smaller power supply unit.

Some features on the mainboard are implemented by cabling connectors on the mainboard to indicators and switches on the system case. Ensure that your case supports all the features required. The KOB 630e CFSFx mainboard can support one or two floppy diskette drives, and four enhanced IDE drives. Ensure that your case has sufficient power and space for all the drives that you intend to install.

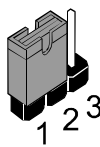
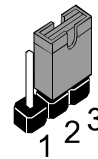
The mainboard has a set of I/O ports on the rear edge. Ensure that your case has an I/O template that supports the I/O ports and expansion slots.

### ***How to Set Jumpers***

A jumper consists of two or more pins mounted on the mainboard. Some jumpers might be arranged in a series with each pair of pins numbered differently. Jumpers are used to change the electronic circuits on the mainboard. When a jumper cap is placed on two jumper pins, the pins are SHORT. If the jumper cap is removed (or placed on just a single pin) the pins are OPEN.



This illustration shows a 3-pin jumper. The jumper cap is placed on pins 2 and 3, so this jumper setting is SHORT PINS 2-3.



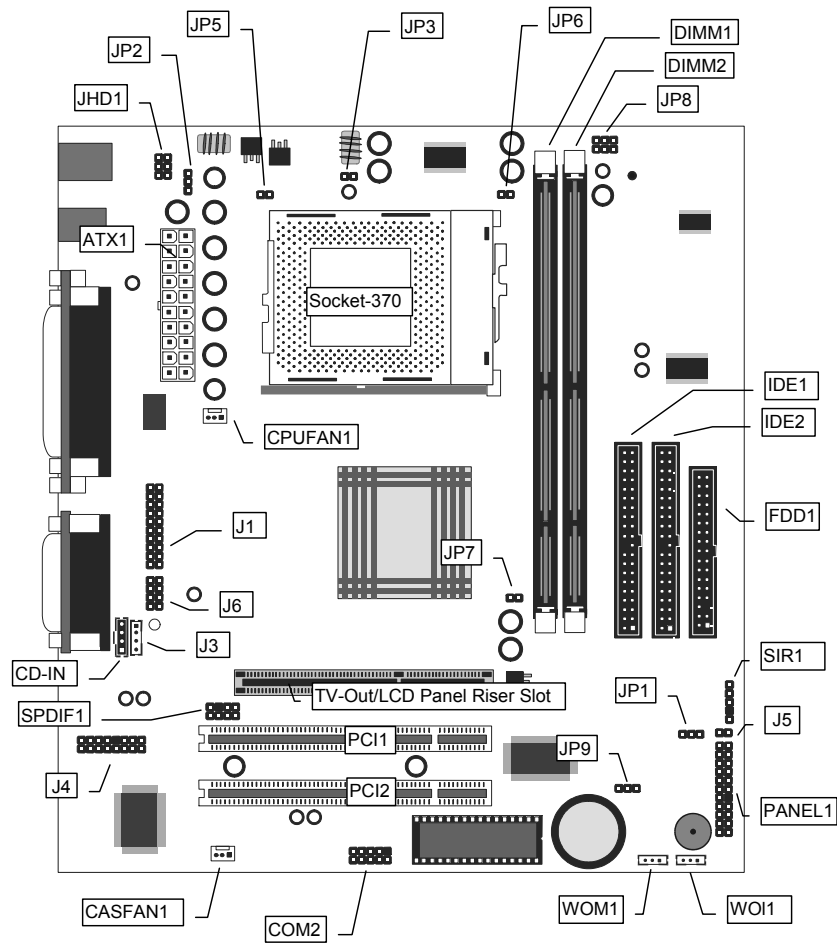
This illustration shows the same 3-pin jumper. The jumper cap is placed on pins 1 and 2, so this jumper setting is SHORT PINS 1-2.

In this manual, all the jumper illustrations clearly show the pin numbers. When you are setting the jumpers, make sure that the jumper caps are placed on the correct pins to select the function or feature that you want to enable or disable.

## Preparing the Mainboard

### ***Mainboard Guide***

Use the following illustration and key to identify the components on your mainboard.



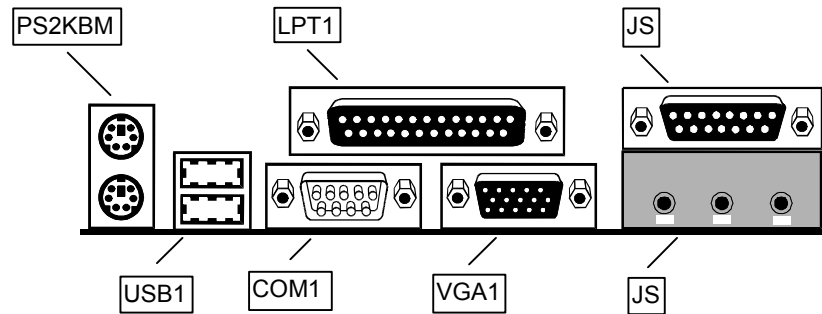
### Key to Mainboard Components

Component	Description
Socket-370	Socket for PPGA Celeron Processors
PCI 1, 2	Two 32-bit PCI Slots
TV-Out/LCD Panel Riser	Slot for a TV-Out/LCD Panel Riser card.
DIMM 1, 2	Two slots for 168-pin SDRAM memory module
FDD1	Connector for floppy disk drives
IDE1, IDE2	Primary and secondary IDE channels
ATX1	Connector for ATX power supply
SIR1	Connector for optional infrared port
PANEL1	Panel connector for switches and indicators
WOM1	Connector for modem wake up
WOL1	Connector for LAN wake up
SPDIF1	SPDIF In/out connector (24-bit digital audio interface)
*LED2	DIMM Power LED
COM2	Connector for serial port 2/4
CASFAN1	Power connector for case cooling fan
CPUFAN1	Power connector for CPU cooling fan
CD-IN	Audio connector for CD-ROM/DVD drive
JHD1	Auxiliary keyboard connector
JP1	Clear CMOS jumper
JP2	Keyboard power on jumper
JP3, JP4, JP5, and JP8	These jumpers are featured, but currently not supported
JP7	Select PAL/NTSC output for optional TV/LCD card
JP9	Flash BIOS jumper
J1	Header for digital I/O port on front panel (optional)
J3	Auxiliary audio connector for CD-ROM/DVD drive
J4	Connector for modem DAA module
J5	Connector for two-color LED
J6	Header for analog I/O port on front panel (optional)

#### **\*LED2**

This red indicator turns on whenever the system enters Suspend-to-RAM mode.

### ***I/O Ports Side View***

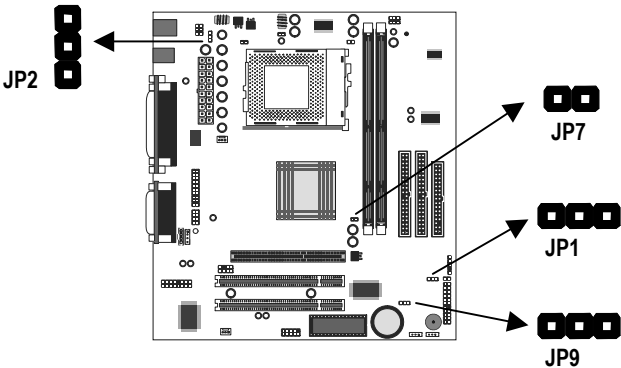


### ***Key to I/O Ports***

Component	Description
PS2KBM	PS/2 port for pointing device (upper port) PS/2 port for keyboard (lower port)
LPT1	External parallel port
JS (Upper)	External game/MIDI port
JS (Lower)	Audio jacks for (from left to right) line out, line in, microphone
VGA1	External monitor port
COM1	External serial port COM1/3
USB1	Two stacked Universal Serial Bus ports

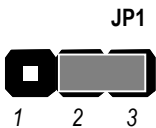
### Check the Jumper Settings

Check all the mainboard jumpers to ensure that the board is configured correctly.



#### JP1 Clear CMOS Memory Jumper

This jumper lets you erase the system setup settings that are stored in CMOS memory. You might need to erase this data if incorrect settings are preventing your system from operating. To clear the CMOS memory, turn off the system, disconnect the power cable from the mainboard, and short the appropriate pins for a few seconds.

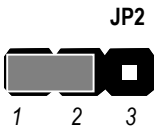


Function	Jumper Cap
Clear CMOS	Short pins 1-2
	Short pins 2-3

#### JP2: Keyboard Power On Jumper

This jumper lets you use a typed-in password as a power switch to turn your system on. If you enable this property, you need to define the password or the hot keys using the setup utility. See Chapter 3.

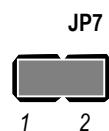
Function	Jumper Cap
Enable keyboard power on	Short pins 1-2
Disable keyboard power on	Short pins 2-3



### ***JP7: PAL/NTSC selection jumper***

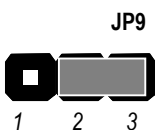
Use this 2-pin jumper to set the video output from the optional TV/LCD card to either PAL or NTSC

Function	Jumper Cap
Enable PAL	Short pins 1-2
Enable NTSC	Open pins 1-2



### ***JP9: Flash BIOS Jumper***

Use this 3-pin jumper to allow the BIOS CMOS memory to be flashed, i.e. a new BIOS version to be written to the CMOS chip onboard.



Function	Jumper Cap
Enable Flash BIOS	Short pins 1-2
Normal operation	Short pins 2-3

## Install the Mainboard in the Case

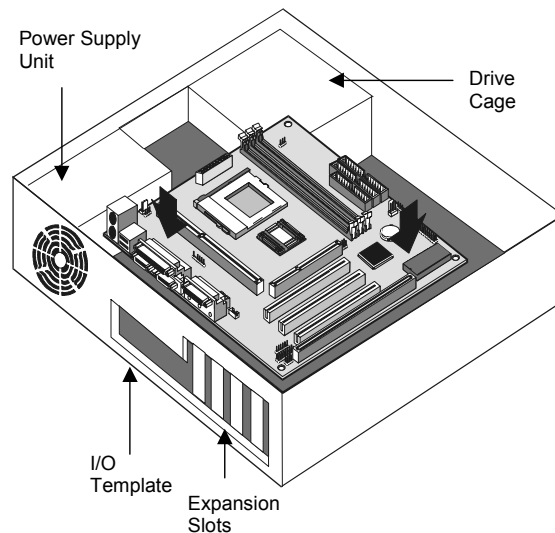
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The mainboard is drilled with a series of holes. Most system cases have mounting brackets installed in the case which correspond to the holes in the mainboard. You can secure the mainboard in the system case by placing the mainboard over the mounting brackets and driving screws through the mainboard into the mounting brackets.

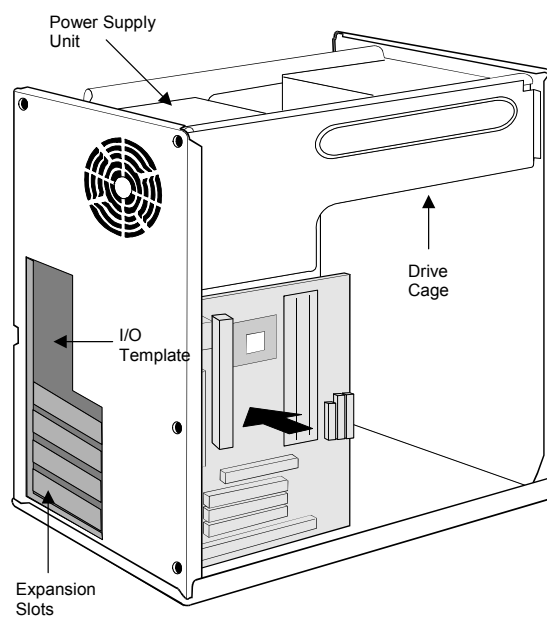
Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the mainboard.

**Note:** *Do not overtighten the screws as this can stress the mainboard.*

The illustration below shows a mainboard installing in a standard desktop case.

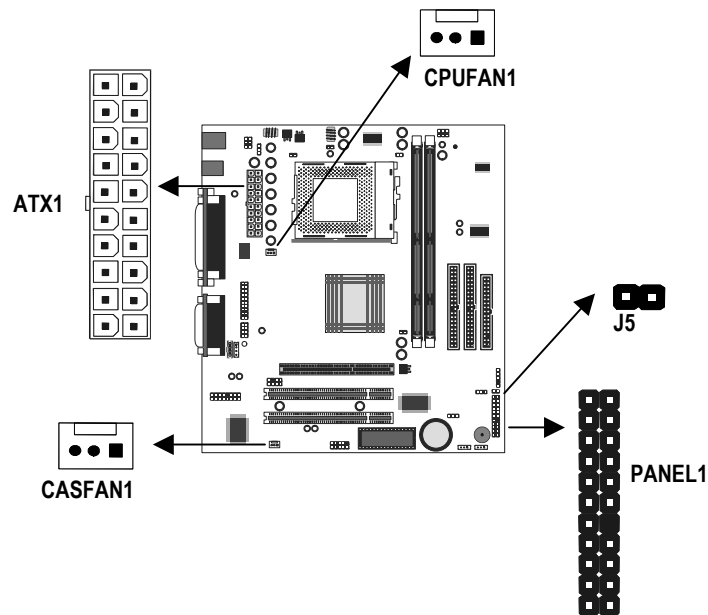


The illustration below shows the mainboard installing into a tower-type case.



## **Connecting Power, Chassis Fans, and Switches and Indicators**

After you have installed the mainboard into the system case, connect the power cable from the case power supply unit to the mainboard power connector ATX1. Connect the chassis/CPU fans (if your case has them) to the 12V power supply connectors CASFAN1 or CPUFAN1 on the mainboard. Then connect the case switches and indicators to the PANEL connector and the J5 LED connector on the mainboard.



### **Power Connector**

Locate the power cable from the case power supply unit and plug it into the ATX1 power connector.

### **Chassis and CPU Fans**

If your case has a cooling fan installed in the chassis, plug the cable from the chassis-mounted fan into the mainboard 12V power supply connector CASFAN1. If your CPU has a cooling fan, plug the cable into the 12V power supply connector CPUFAN1.

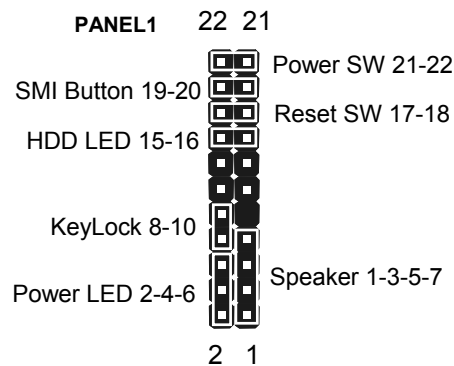
### **Green LED Connector**

If your case has a dual color indicator lamp for the ACPI Green suspend mode, connect the cable from the indicator to the J5 dual color LED connector.

### **Panel Connector**

The mainboard PANEL connector has a standard set of switch and indicator connectors that are commonly found on ATX system cases. Use the illustration below to make the correct connections to the case switches and indicators.

Function	Pins
Speaker	+1, 3, 5, 7
Power Indicator	+2, +4, 6
Keylock	8, 10
Green Indicator	13, 14
Hard Disk Indicator	+15, 16
Reset Switch	17, 18
Suspend Switch	19, 20
Power Switch	21, 22



## Install Other Hardware

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Start installing the essential hardware required to get your system started.

### ***Install the Processor***

This mainboard has a Socket-370 processor socket. To choose a processor, you need to consider the performance requirements of the system and also the price of the processor. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory. Higher clock speeds and larger amounts of cache memory deliver greater performance.

#### ***About Socket-370 Processors***

The socket-370 on this board currently supports PPGA Intel Celeron processors.

#### **Intel PPGA Celeron**

PPGA stands for Plastic Pin Grid Array. This is a description of the square plastic package that the processor is embedded in. The PPGA Celeron is identical to the SEPP Celeron, except for the external packaging. PPGA Celerons run at clock speeds from 300 MHz through to 533 MHz. All the current PPGA Celerons operate over a 66 MHz system bus. The PPGA Celeron is less expensive than a SEPP Celeron with the same clock speed.

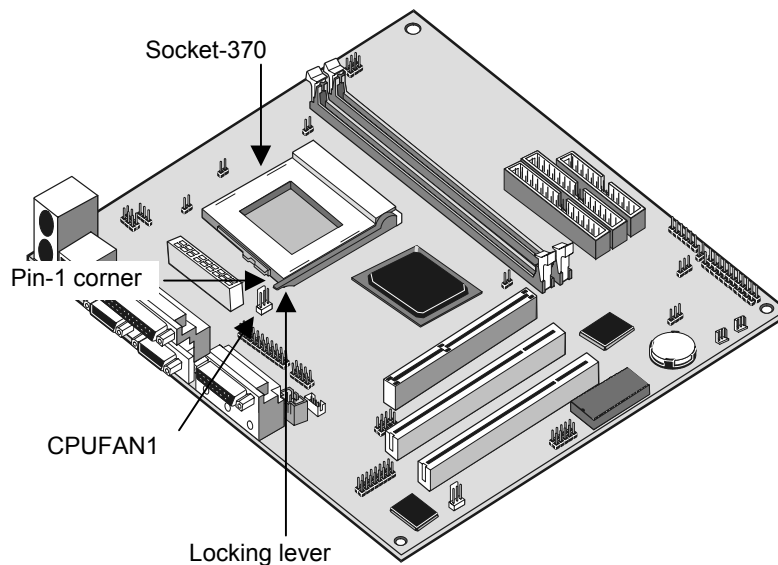
#### ***New Processors***

This board is designed to support some future processors that have not yet been released. Ask your mainboard vendor for an up-to-date list of processors that can be installed on this mainboard.

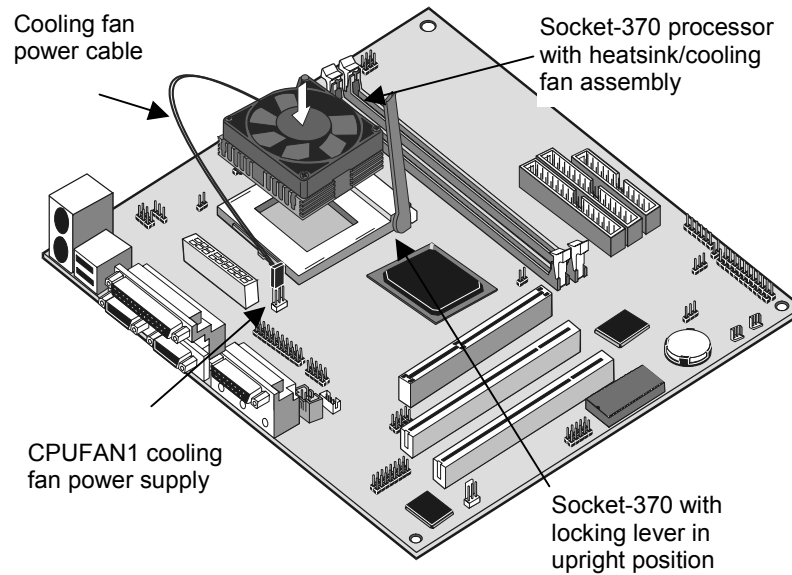
## ***Installing a Socket-370 Processor***

To install the mainboard with a PPGA Celeron processor, follow the steps below.

### ***Locate the Socket-370 and CPUFAN1***



1. On the mainboard, locate the socket-370 and CPUFAN1.
2. On the socket-370, pull the locking lever away from the socket to unhook it and then raise the locking lever to the upright position.
3. Identify the pin-1 corner on the socket-370 and the pin-1 corner on the processor. The socket pin-1 corner is adjacent to the handle of the locking lever. The processor pin-1 corner is beveled.
4. Matching the pin-1 corners, drop the processor into the socket. No force is required and the processor should seat into the socket easily.
5. Swing the locking lever down and hook it under the latch on the edge of the socket. This locks the processor in place.
6. Locate the power cable on the heatsink/cooling fan assembly that is attached to the top of the processor.
7. Plug the power cable into the CPUFAN1 12V power supply on the mainboard.



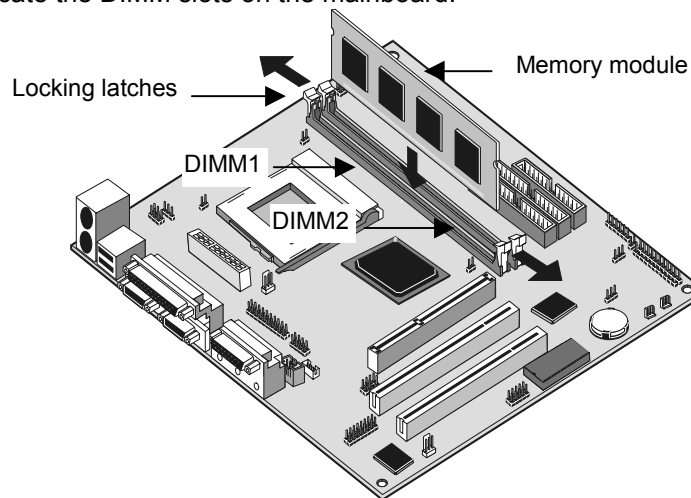
The mainboard must be configured to deliver the correct clock speed and the correct system bus for the kind of processor that you have installed. You can do this by using the system setup utility. The first time you start the system, immediately enter the setup system and make the appropriate settings. Usually, you can automatically configure the CPU by using the CPU & BIOS Features page of the setup utility. See Chapter 3 for more information.

## ***Install the Memory Modules***

For this mainboard, you must use 168-pin 3.3V non-buffered Dual In-line Memory Modules (DIMMs). The memory chips must be standard or registered SDRAM (Synchronous Dynamic Random Access Memory). The memory bus can run at 66 MHz or 100 MHz (100 MHz is recommended). If your processor operates over a 100 MHz system bus, you must install PC-100 memory that also operates over a 100 MHz bus. If you install a processor that operates over a 66 MHz bus, you can install memory chips that operate at 66 MHz.

You must install at least one memory module. You can install the module in any one of the three DIMM slots. Each module may be installed with up to 512 MB of memory so the maximum capacity is 1 GB. The mainboard supports memory chips that have EC (Error Correction) or ECC (Error Correction Code).

1. Locate the DIMM slots on the mainboard.



2. The DIMM slots are keyed with notches and the DIMMs are keyed with cut-outs so that they can only be installed correctly. Check that the cut-outs on the DIMM module edge connector match the notches in the DIMM slot.
3. Push the latches on each side of the DIMM slot down.

4. Install the DIMM module into the slot and press it carefully but firmly down so that it seats correctly. The latches at either side of the slot will be levered upwards and latch on to the edges of the DIMM when it is installed correctly.

### ***Install a Hard Disk Drive and CD-ROM***

This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive.

**Note:** *Ribbon cable connectors are usually keyed so that they can only be installed correctly on the device connector. If the connector is not keyed make sure that you match the pin-1 side of the cable connector with the pin-1 side of the device connector. Each connector has the pin-1 side clearly marked. The pin-1 side of each ribbon cable is always marked with a colored stripe on the cable.*

#### ***About IDE Devices.***

Your mainboard has a primary IDE channel interface (IDE1) and a secondary IDE interface (IDE2). The mainboard ships with one IDE ribbon cable which supports one or two IDE devices. All IDE devices have jumpers or switches that can be used to set the IDE device as MASTER or SLAVE.

If you install two IDE devices on one cable, you must make sure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

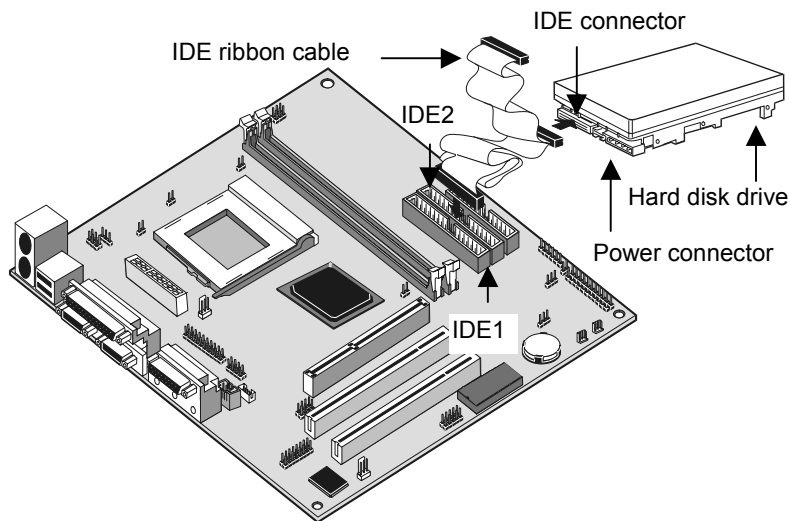
If you want to install more than two IDE devices, obtain a second IDE cable and you can add two more devices to the secondary IDE channel. If there are two devices on the cable, make one MASTER and one SLAVE.

#### ***About UDMA***

This board supports UltraDMA 33/66. UDMA is a technology that speeds the performance of devices in the IDE channel. We recommend that you install IDE devices that support UDMA, and use IDE cables that support UDMA.

### ***Installing a Hard Disk Drive***

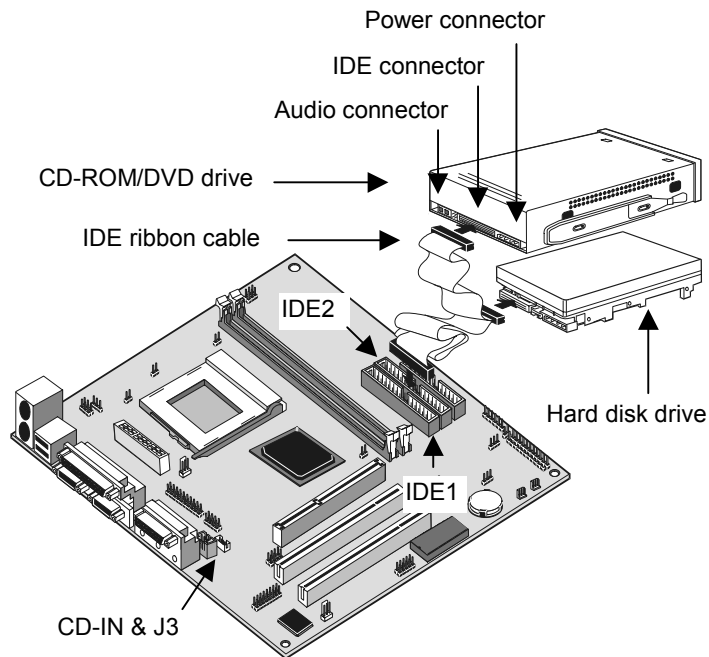
1. Install the hard disk drive into the drive cage in your system case.
2. Plug the IDE cable into the primary IDE channel on the mainboard IDE1.
3. Plug one of the connectors on the IDE cable into the IDE connector on the back edge of the hard disk drive. It doesn't matter which connector on the cable that you use. Make sure that you have the pin-1 side of the cable matched with the pin-1 side of the connector.
4. Plug a power cable from the case power supply unit into the power connector on the back edge of the hard disk drive.
5. When you first start up your system, go immediately to the setup utility and use the IDE Hard Disk Auto Detect feature to configure the IDE devices that you have installed. See Chapter 3 for more information.



### ***Installing a CD-ROM/DVD Drive***

1. Install the CD-ROM/DVD drive into the drive cage in your system case. Plug the IDE cable into the primary IDE channel on the mainboard IDE1.
2. Plug one of the connectors on the IDE cable into the IDE connector on the back edge of the CD-ROM/DVD drive. It doesn't matter which connector on the cable that you use. Make sure that you have the pin-1 side of the cable matched with the pin-1 side of the connector.

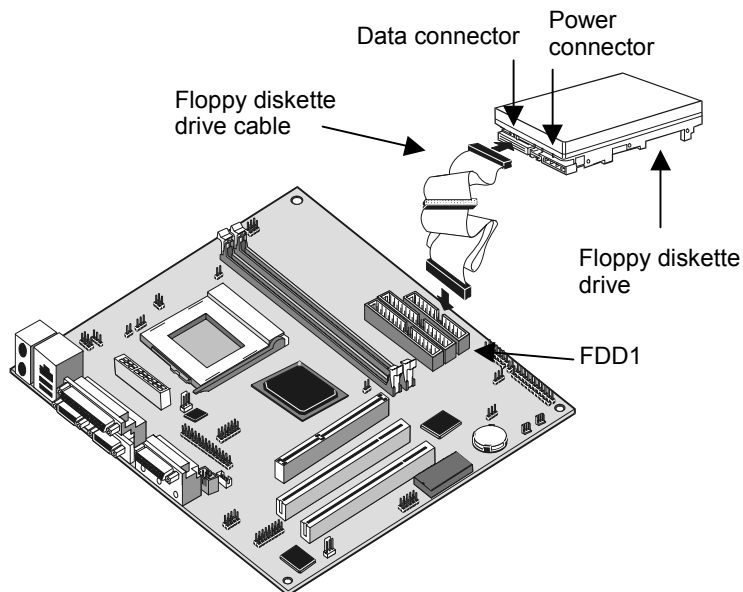
3. Plug a power cable from the case power supply unit into the power connector on the back edge of the CD-ROM/DVD drive.
4. Use the audio cable provided with the CD-ROM/DVD drive to connect the audio connector on the rear edge of the CD-ROM/DVD drive to the one of the two audio-in connectors CD-IN and J4 on the mainboard.
5. When you first start up your system, go immediately to the setup utility and use the IDE Hard Disk Auto Detect feature to configure the IDE devices that you have installed. See Chapter 3 for more information.



### ***Installing a Floppy Diskette Drive***

The mainboard has a floppy diskette drive interface and it ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25" drive or a 3.5" drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25" drive and another type of connector for a 3.5" drive

1. Install the floppy diskette drive into the drive cage in your system case. Plug the diskette drive cable into the diskette drive interface on the mainboard FDD1.
2. Plug one of the connectors on the diskette drive cable into the data connector on the back edge of the floppy diskette drive. Make sure that you have the pin-1 side of the cable matched with the pin-1 side of the connector.
3. Plug a power cable from the case power supply unit into the power connector on the back edge of the diskette drive.
4. When you first start up your system, go immediately to the setup utility and use the Standard page to configure the floppy diskette drives that you have installed. See Chapter 3 for more information.

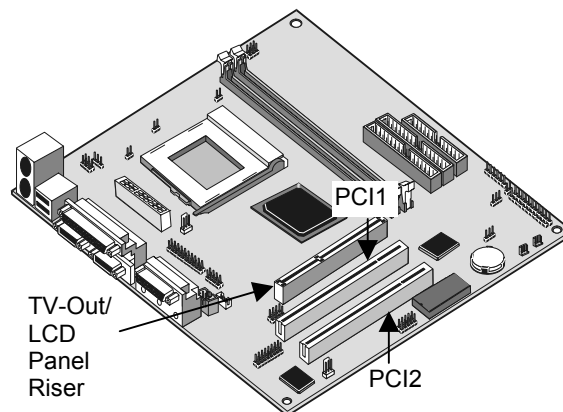


## Using the Expansion Slots

This mainboard has two 32-bit PCI expansion slots and one TV-Out/LCD Panel Riser slot.

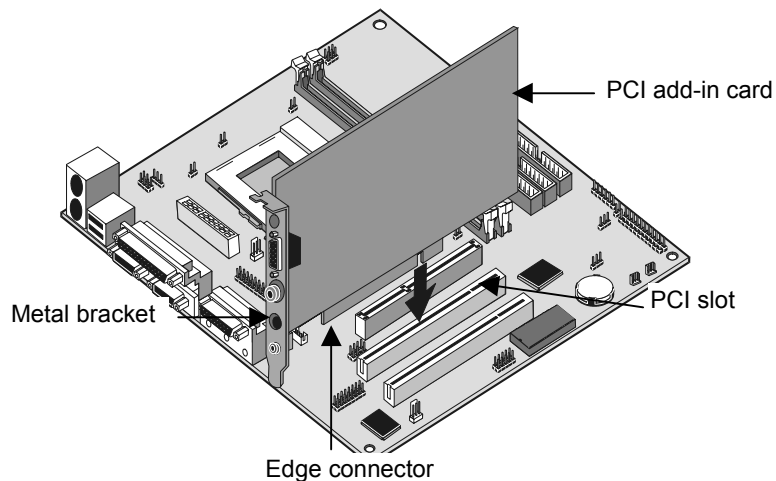
**PCI Slots:** The PCI slots can be used to install add-in cards that have the 32-bit PCI (Peripheral Components Interconnect) interface.

**TV-Out/LCD Panel Riser:** The TV-Out/LCD Panel Riser slot allows for the installation of a riser card for exporting the system's video output to an TV receiver or an external LCD panel.



1. Before installing an expansion card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.
2. Select which expansion slot you are going to use for your add-in card.
3. In the system case, remove the blanking plate from the slot in the system case that corresponds to the expansion slot that you are going to use.
4. Position the edge connector of the add-in card over the expansion slot. Position the metal bracket of the card in the empty slot in the system case.
5. Install the edge connector of the add-in card into the expansion slot. Press down quite firmly so that you are sure that the edge connector is correctly seated in the slot.

6. Secure the metal bracket of the card in the empty slot in the system case with a screw.
7. For some add-in cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-in card.



### ***Add-in Card Options***

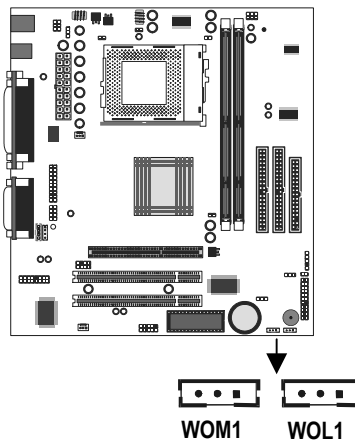
The mainboard has two features that can be used if you have installed either a fax/modem card or a network adapter card.

#### ***WOL1: Wake on LAN***

If you have installed a network adapter (LAN adapter), you can use the cable provided with the card to plug into the WOL1 connector on the mainboard. This is the Wake On LAN feature. When your system is in a power-saving mode, any traffic through the network automatically resume the system. You must enable this item using the Power Management page of the setup utility. See Chapter three for more information.

### ***WOM1: Wake on Modem***

If you have installed a fax/modem card, you can use the cable provided with the card to plug into the WOM1 connector on the mainboard. This is the Wake On Modem feature. When your system is in a power-saving mode, any incoming calls to the modem automatically resume the system. You must enable this item using the Power Management page of the setup utility. See Chapter three for more information.



### ***Install Options and Extension Brackets***

This mainboard has a number of special connectors that allow you to add optional features to your system. You can install any of the following items:

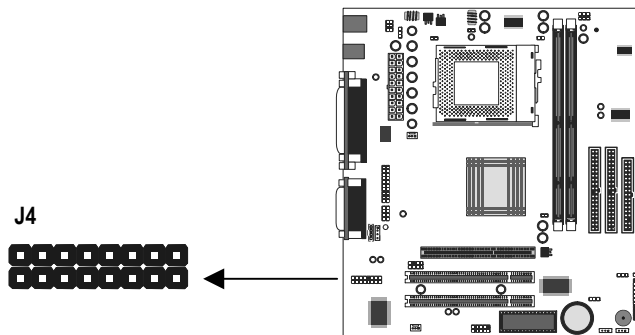
- ◆ Fax/modem card option
- ◆ Infrared port
- ◆ Second serial port
- ◆ 24-bit digital audio extension bracket (SPDIF)
- ◆ Digital I/O port on front panel
- ◆ Analog I/O port on front panel

#### ***Fax/modem Card***

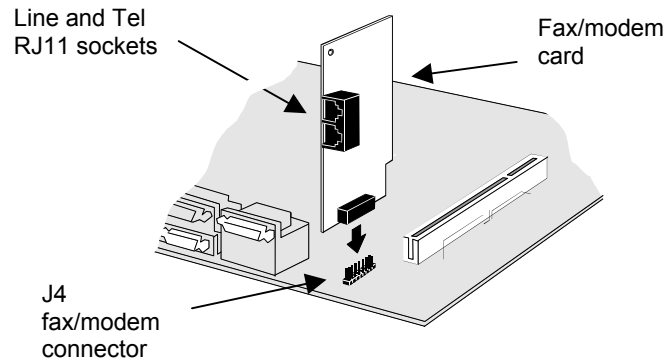
You must install the fax/modem card in order to use the built-in fax/modem.

The fax/modem card is an optional item supplied with this mainboard.

1. Locate the J4 fax/modem connector on the mainboard.

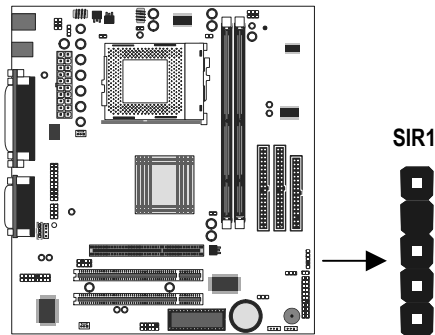


2. Remove the expansion slot blanking plate from the system chassis that is adjacent to the fax/modem connector.
3. Install the fax/modem card on to the J4 connector as shown below. The RJ11 Line and Telephone sockets on the bracket are positioned in the expansion slot with the removed blanking plate.



### ***Infrared Port***

This option can be purchased from third-party vendors.

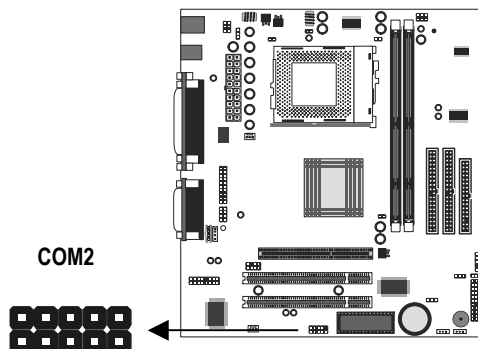


1. If you are installing an optional serial infrared port, connect the cable from the optional IR port to the SIR1 connector on the mainboard.
2. After you have connected the cable, secure the optional IR port to the appropriate place on your system case.

**Note:** An IR port may use some of the resources required by a second serial port or a fax/modem card. If you have more than one of these items installed, you may not be able to use them at the same time. You can use the *Peripherals* page of the setup utility to switch resources between an IR port and a second serial port. See Chapter 3 for more information.

### Second Serial Port

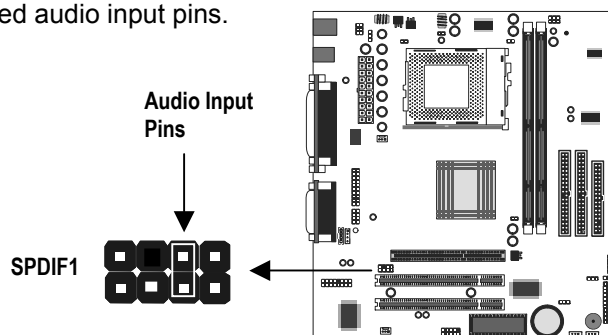
The mainboard has a connector for an optional second serial port. You can implement the second serial port by connecting an extension bracket with a serial port to the onboard serial port connector COM2.



**Note:** An second serial port may use some of the resources required by an infrared port or a fax/modem card. If you have more than one of these items installed, you may not be able to use them at the same time. You can use the *Peripherals* page of the setup utility to switch resources between an IR port and a second serial port. See Chapter 3 for more information.

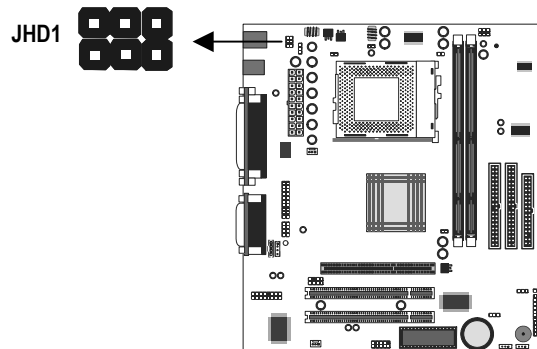
### Digital Audio Extension Bracket

You can purchase an optional 24-bit digital audio extension bracket from a third-party vendor. You can use the audio RCA jacks to connect to digital audio devices. If your CD-ROM/DVD drive has digital audio output, you can connect it to the input pins of the SPDIF connector. On the mainboard, locate the digital audio connector SPDIF1. Connect the cable from the digital audio extension bracket to SPDIF1. If you have digital audio output from your CD-ROM/DVD drive, connect it to the marked audio input pins.



### Auxiliary Keyboard Connector

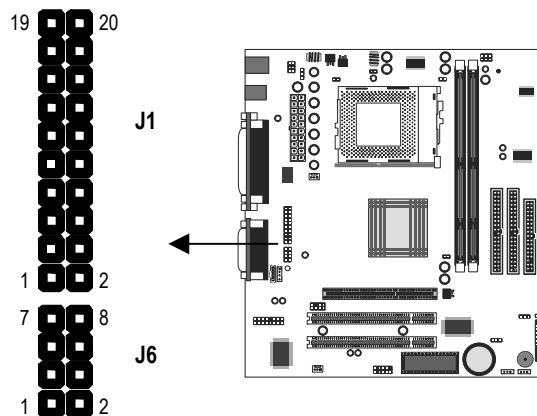
The mainboard has connectors for an additional keyboard port. If your chassis has an additional bracket on the front side, you can use this connector on the mainboard to connect the proper feature to the extension bracket in the case.



### Digital and Analog I/O port

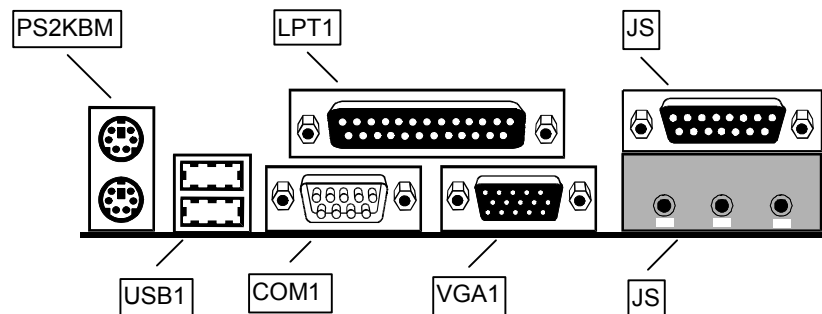
The mainboard had two connectors/jumpers for support of optional digital (J1) and analog (J6) I/O ports on the front panel of the system. In order to enable these ports, short the jumpers as indicated in the table below.

Enable Digital I/O Port – J1	Short pins:11-12, 13-14, 17-18, and 19-20
Enable Digital I/O Port – J6	Short pins 3-4, 5-6, and 7-8.



## Make the External Connections

After you have installed the mainboard, make the connections to the external ports.



1. PS2KBM is a stack of two PS/2 mini-DIN ports. The upper port can be used by a PS/2 mouse or pointing device. The lower port can be used by a PS/2 keyboard.
2. LPT1 is a parallel port that can be used by printers or other parallel communications devices. The system identifies the parallel port as LPT1.
3. The upper 15-pin port J2 is a game/MIDI port. You can use this port to connect a joystick or a MIDI device to your system.
4. The lower part of J2 is three audio jacks. The left side jack is for a stereo line out signal. The middle jack is for a stereo line in signal. The right side jack is for a microphone.
5. VGA1 is the connector for a display monitor. Plug the data cable from the monitor into VGA1.
6. COM1 is a serial port that can be used by serial devices such as a mouse, a fax/modem and so on. This serial port is identified by the system as COM1/3.
7. USB1 is a stack of two Universal Serial Bus ports. Use these ports to connect to USB devices.

### ***External Connector Color Coding***

To help identify the external connectors, many connectors now use standard colors as shown in the table below.

<b>Connector</b>	<b>Color</b>
Analog VGA	Blue
Audio line in	Light blue
Audio line out	Lime
Digital monitor / flat panel	White
IEEE 1394	Grey
Microphone	Pink
MIDI/Game	Gold
Parallel	Burgundy
PS/2 compatible keyboard	Purple
PS/2 compatible mouse	Green
Serial	Teal or Turquoise
Speaker out / subwoofer	Orange
Right-to-left speaker	Brown
USB	Black
Video out	Yellow
SCSI, network, telephone, modem, and so on	None

## Chapter 3: Setup

### About the Setup Utility

This chapter explains how to use and modify the BIOS setup utility that is stored on the mainboard. The setup utility stores data about the mainboard components and the configuration of devices that are connected to it. This information is used to test and initialize components at start-up time and to make sure everything runs properly when the system is operating.

The setup utility is installed with a set of default values. You will probably have to make changes to the setup utility whenever you add new components to your system such as new disk drives. You may be able to generate increased performance by changing some of the timing values in the setup, but this can be limited by the kind of hardware you are using, for example the rating of your memory chips. In certain circumstances, the system may generate an error message that asks you to make changes to the setup utility. This happens when the system finds an error during the POST (Power On Self Test) that it carries out at start up.

### Starting the Setup Utility

You can only start the setup utility shortly after the computer has been turned on. A prompt appears on the computer display which says “*Press DEL to run Setup*”. When you see this prompt, press the **Delete** key, and the system will start the setup utility and display the main menu of the utility.

### Using the Setup Utility

When you start setup, the main menu appears. The main menu of the setup utility shows a list of the options that are available. A highlight shows which option is currently selected. You can use the cursor arrow keys to move the highlight to other options. When an option is highlighted, you can execute the option by pressing the **Enter** key.

Some options lead to dialog boxes which ask you verify that that you wish to execute that option. You usually answer these dialogs by typing **Y** for yes and **N** for no. Some options lead to dialog boxes which ask for more information. Setting passwords have this kind of dialog box.

CMOS Setup Utility - Copyright (C) 1984-1999 Award Software	
<ul style="list-style-type: none"> <li>▶ Standard CMOS Features</li> <li>▶ Advanced BIOS Features</li> <li>▶ Advanced Chipset Features</li> <li>▶ Integrated Peripherals</li> <li>▶ Power Management Setup</li> <li>▶ PnP/PCI Configurations</li> <li>▶ PC Health Status</li> </ul>	<ul style="list-style-type: none"> <li>▶ Frequency/Voltage Control</li> <li>Load Fail-Safe Defaults</li> <li>Load Optimized Defaults</li> <li>Set Password</li> <li>Save &amp; Exit Setup</li> <li>Exit Without Saving</li> </ul>
Esc : Quit      F9 : Menu in BIOS      ↑ ↓ → ← : Select Item F10 : Save & Exit Setup	
Time, Date, Hard Disk Type...	

Some options (marked with a triangle) lead to tables of items that usually have a value on the right side. The value of the first item is highlighted, and you can use the cursor arrow keys to select any of the other values in the table of items. When an item is highlighted, you can change the value by pressing the **PageUp** or **PageDown** keys, or the **Plus** or **Minus** keys. The **PageUp** and **Plus** keys cycle forward through the available values, the **PageDown** and **Minus** keys cycle backwards through the values.

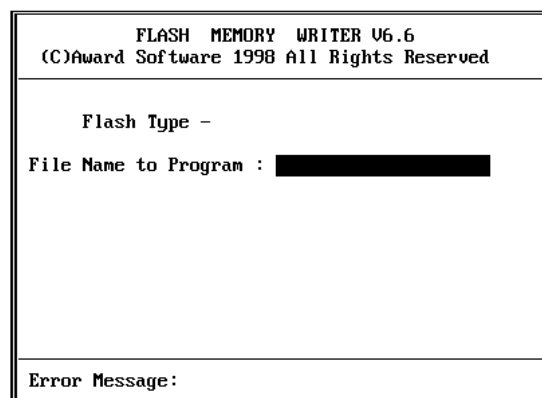
When you are in the main menu, you can exit the utility by pressing the **Escape** key. You can save the current selections and exit the utility by pressing the **F10** key. When you are in one of the options that displays a dialog box, you can return to the main menu by pressing the **Escape** key.

When you are in an option that displays a table of items, you can return to the main menu by pressing the **Escape** key. For some items, you can display a help message by pressing the **F2** key. You can display a general help screen by pressing **F1**. Press **F5** to discard any changes you have made and return all items to the value that they held when the setup utility was started. Press **F6** to load the displayed items with a standard list of fail-safe values. Press **F7** to load the displayed items with a high-performance list of default values.

## ***How to Flash a New BIOS***

You can install an updated BIOS for this motherboard that you can download from the manufacturer's website. New BIOS may provide support for new peripherals, improvements in performance or fixes to address known bugs. Install a new BIOS as follows:

1. Some mainboards have a Flash BIOS jumper that protects the current BIOS from being changed or overwritten.
2. Some Setup programs have an item called Firmware Write Protect that prevents the BIOS from being overwritten. If your BIOS has this item (check the Advanced BIOS Features Setup page) disable it for the present.
3. Your computer must be running in a real-mode DOS environment, not the DOS window of Windows NT or Windows 95/98. We recommend that you create a new formatted DOS system floppy diskette.
4. Locate the flash memory utility on the support CD-ROM. It's called AWD752.EXE. Copy this file to the new system diskette.
5. Copy the new BIOS file that you downloaded from the manufacturer's website to the newly formatted system diskette.
6. Turn off your computer and insert the newly formatted DOS diskette in your computer's diskette drive.
7. You might need to run the setup utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.
8. At the A:\ prompt, after your computer has booted a clean DOS from the diskette, type in the filename AWD752 and press **Enter**.



9. In the opening dialog box, type in the filename of the new BIOS and follow the onscreen directions to flash the new BIOS to the motherboard.
10. When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your mainboard has a Flash BIOS jumper, don't forget to reset the jumper to protect the newly installed BIOS from being overwritten.

## Standard CMOS Features Option

This option displays a table of items which defines basic information about your system.

CMOS Setup Utility - Copyright (C) 1984-1999 Award Software  
Standard CMOS Features

Date (mm:dd:yy)	Mon, Dec 20 1999	Item Help
Time (hh:mm:ss)	18 : 15 : 38	
▶ IDE Primary Master	Press Enter None	Menu Level ▶
▶ IDE Primary Slave	Press Enter None	
▶ IDE Secondary Master	Press Enter None	Change the day, month, year and century
▶ IDE Secondary Slave	Press Enter None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Floppy 3 Mode Support	Disabled	
Video	EGA/UGA	
Halt On	All Errors	
Base Memory	640K	
Extended Memory	31744K	
Total Memory	32768K	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

### Date and Time

The Date and Time items show the current date and time held by your computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

### IDE Devices

### Defaults: None

Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel. Press **Enter** to display the IDE sub-menu.

CMOS Setup Utility - Copyright (C) 1984-1999 Award Software		
IDE Primary Master		
IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master Access Mode	Auto	Menu Level >>
Capacity	0 MB	To auto-detect the HDD's size, head... on this channel
Cylinder	0	
Head	0	
Precomp	0	
Landing Zone	0	
Sector	0	
↑↓:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

---

#### IDE HDD Auto-Detection

Press **Enter** while this item is highlighted if you want the setup utility to automatically detect and configure a hard disk drive on the IDE channel.

---

#### IDE Primary/Secondary Master/Slave

If you leave this item at *Auto*, the system will automatically detect and configure any IDE devices it finds. If it fails to find a hard disk, change the value to *Manual* and then manually configure the drive by entering the characteristics of the drive in the items below (Capacity, Cylinder, Head, Precomp, etc.). If you have no device installed change the value to *None*.

---

#### Access Mode

This item defines some special ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at *Auto* and the system will automatically decide the fastest way to access the hard disk drive.

Press **Esc** to close the IDE device sub-menu and return to the Standard CMOS Features page.

---

#### Drive A and Drive B

**Default: 1.44M, 3.5 in., None**

These items define the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

---

#### Floppy 3 Mode Support

**Default: Disabled**

Floppy 3 mode refers to a 3.5" diskette with a capacity of 1.2 MB. Floppy 3 mode is sometimes used in Japan.

---

#### Video

**Default: EGA/VGA**

This item defines the video mode of the system. This mainboard has a built-in VGA graphics system so you must leave this item at the default value.

---

**Halt On****Default: All Errors**

This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which kind of errors in the POST are sufficient to halt the system.

---

**Base Memory, Extended Memory, Total Memory**

These items are automatically detected by the system at start up time.

---

## Advanced BIOS Features Setup Option

---

This option displays a table of items which defines more advanced information about your system. You can make modifications to most of these items without introducing fatal errors to your system. Note that the page has a scroll-bar to scroll down to more items.

CMOS Setup Utility - Copyright (C) 1984-1999 Award Software  
Advanced BIOS Features

		Item Help
Anti-Virus Protection	Disabled	<div>Menu Level ▶</div> <div>Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep</div>
CPU Internal Cache	Enabled	
External Cache	Enabled	
CPU L2 Cache ECC Checking	Enabled	
Processor Number Feature	Enabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	LS/ZIP	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Enabled	
Boot Up NumLock Status	On	
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	Setup	
OS Select For DRAM > 64MB	Non-OS2	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

---

**Anti-Virus Protection****Default: Disabled**

When this item is enabled it provides some protection against viruses which try to write to the boot sector and partition table of your hard disk drive. This item is *Disabled* as a default. You need to disable it so that you can install an operating system. We recommend that you enable Anti-Virus Protection as soon as you have installed your disk with an OS.

---

**CPU Internal Cache****Default: Enabled**

All the processors that can be installed in this mainboard use internal (level 1) cache memory to improve performance. Leave this item at the default value *Enabled* for better performance.

---

**CPU Internal Cache****Default: Enabled**

All the processors that can be installed in this mainboard use internal (level 1) cache memory to improve performance. Leave this item at the default value *Enabled* for better performance.

---

**External Cache****Default: Enabled**

Most processors that can be installed in this system use external (L2) cache memory to improve performance. The exceptions are older SEPP Celeron CPUs running at 266 or 300 MHz. Enable this item for all but these two processors.

---

**CPU L2 Cache ECC Checking****Default: Enabled**

This item enables or disables ECC (Error Correction Code) error checking on the CPU cache memory. We recommend that you leave this item at the default value.

---

**Processor Number Feature****Default: Enabled**

Some of the new generation of socket-370 processors are installed with a unique processor number. This number may be used for verification in internet transactions and e-commerce. If you prefer not to use or distribute the unique processor number, use this item to suppress the processor number.

---

**Quick Power On Self Test****Default: Enabled**

You can enable this item to shorten the power on testing and have your system start up a little faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

---

**First/Second/Third Boot Device****Default: Floppy/HDD-0/LS/ZIP**

Use these three items to select the priority and order of the devices that your system will search for an operating system at start-up time.

---

**Boot Other Device****Default: Enabled**

If you enable this item, the system will search all other possible locations for an operating system if it fails to find one in the devices specified under the first, second and third boot devices.

---

**Swap Floppy Drive****Default: Disabled**

If you have two floppy diskette drives in your system, this item allows you to swap around the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A.

---

**Boot Up Floppy Seek****Default: Enabled**

If this item is enabled, it checks the geometry of the floppy disk drives at start-up time. You don't need to enable this item unless you have a old diskette drive with 360K capacity.

---

**Boot Up NumLock Status****Default: On**

This item defines if the keyboard Num Lock key is active when your system is started.

---

**Gate A20 Option****Default: Fast**

This item defines how the system handles legacy software that was written for an earlier generation of processors. Leave this item at the default value.

---

<b>Typematic Rate Setting</b>	<b>Default: Disabled</b>
-------------------------------	--------------------------

If this item is enabled, you can use the following two items to set the typematic rate and the typematic delay settings for your keyboard.

---

<b>Typematic Rate (Chars/Sec)</b>	<b>Default: 6</b>
-----------------------------------	-------------------

If the item Typematic Rate Setting is enabled, you can use this item to define how many characters per second are generated by a held-down key.

---

<b>Typematic Delay (Msec)</b>	<b>Default: 250</b>
-------------------------------	---------------------

If the item Typematic Rate Setting is enabled, you can use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.

---

<b>Security Option</b>	<b>Default: Setup</b>
------------------------	-----------------------

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the setup utility.

---

<b>OS Select For DRAM &gt; 64 MB</b>	<b>Default: Non-OS2</b>
--------------------------------------	-------------------------

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default Non-OS2.

---

<b>Report No FDD for WIN 95</b>	<b>Default: Yes</b>
---------------------------------	---------------------

If you are running a system with no floppy drive and using the Windows 95 OS, select Yes for this item to ensure compatibility with the Windows 95 logo certification.

---

<b>Video BIOS Shadow</b>	<b>Default: Enabled</b>
--------------------------	-------------------------

This item allows the video BIOS to be copied to system memory for faster performance.

## Advanced Chipset Features Option

This option displays a table of items that define critical timing parameters of the mainboard components including the memory, and the system logic. Generally, you should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly you may introduce fatal errors or recurring instability into your system. Note that the page has a scroll-bar to scroll down to more items.

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software		
Advanced Chipset Features		
Auto Configuration	Auto	Item Help
SDRAM RAS Active Time	7T	Menu Level ▶
SDRAM RAS Precharge Time	2T	
RAS to CAS Delay	3T	
Dram Background Command	Delay 1T	
LD-Off Dram RD/WR Cycles	Delay 1T	
Write Recovery Time	2T	
UCM REF To ACT/REF Delay	10T	
UCM ACCT - ACT/REF Delay	9T	
Early CKE Delay 1T Cntrl	Normal	
Early CKE Delay Adjust	2ns	
Mem Command Output Time	Delay 1T	
SDRAM/UCM CAS Latency	SPD	
System BIOS Cacheable	Enabled	
Video RAM Cacheable	Enabled	
Memory Hole at 15M-16M	Disabled	
AGP Aperture Size	64MB	
Graphic Window WR Combin	Enabled	
Concurrent function(MEM)	Enabled	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

### Auto Configuration

### Default: Auto

Auto Configuration installs preset default values for some of the timing parameters for RAM memory. We recommend that you leave these items at the default value Auto.

---

<b>SDRAM RAS Active Time</b>	<b>Default: 7T</b>
<b>SDRAM RAS Precharge Time</b>	<b>Default: 2T</b>
<b>RAS-to-CAS Delay</b>	<b>Default: 3T</b>
<b>DRAM Background Command</b>	<b>Default: Delay 1T</b>
<b>LD-Off DRAM RD/WR Cycles</b>	<b>Default: Delay 1T</b>
<b>Write Recovery Time</b>	<b>Default: 2T</b>
<b>VCM REF To ACT/REF Delay</b>	<b>Default: 10T</b>
<b>VCM ACCT – ACT/REF Delay</b>	<b>Default: 9T</b>
<b>Early CKE Delay 1T Cntrl</b>	<b>Default: Normal</b>
<b>Early CKE Delay Adjust</b>	<b>Default: 2ns</b>
<b>Mem Command Output Time</b>	<b>Default: Delay 1T</b>
<b>SDRAM/VCM CAS Latency</b>	<b>Default: SPD</b>

---

These items set the timing and wait states for SDRAM memory. We recommend that you leave these items at the default value.

---

<b>System BIOS Cacheable</b>	<b>Default: Enabled</b>
<b>Video BIOS Cacheable</b>	<b>Default: Enabled</b>

---

These items allow the video and/or system to be cached in memory for faster execution. We recommend that you leave these items at the default value.

---

<b>Memory Hole at 15M-16M</b>	<b>Default: Disabled</b>
-------------------------------	--------------------------

---

This item can be used to reserve memory space for some ISA expansion cards that require it.

---

<b>AGP Aperture Size</b>	<b>Default: 64MB</b>
--------------------------	----------------------

---

This item defines the size of the aperture if you use an AGP graphics adapter. It refers to a section of the PCI memory address range used for graphics memory.

---

<b>Graphic Window WR Combin</b>	<b>Default: Enabled</b>
---------------------------------	-------------------------

---

Use this item to enable or disable CPU support for WR Combin feature.

---

<b>Concurrent Function(MEM)</b>	<b>Default: Enabled</b>
<b>Concurrent Function(PCI)</b>	<b>Default: Enabled</b>

---

Use these items to enable or disable concurrent memory/PCI and CPU action.

---

<b>CPU Pipeline Control</b>	<b>Default: Enabled</b>
-----------------------------	-------------------------

---

This item sets a timing parameter for CPU access. Since the CPU timing is determined by the system hardware, you can set this item to Disabled.

---

<b>SDRCLK Control</b>	<b>Default: +2.0 ns</b>
<b>SDRCLK Control CS#/CKE</b>	<b>Default: +2.0 ns</b>
<b>SDRCLK Control MA/SRAS</b>	<b>Default: +2.0 ns</b>
<b>SDRCLK Control DQM/MD</b>	<b>Default: +2.0 ns</b>
<b>EGMRCLK Control</b>	<b>Default: +1.5 ns</b>
<b>EGMWCLK Control</b>	<b>Default: +2.5 ns</b>

---

These items set timing parameters for the CPU access. We recommend that you leave these items at the default value.

---

***PCI Delay Transaction******Default: Enabled***

If the chipset has an embedded 32-bit write buffer to support delay transaction cycles, you can enable this item to provide compliance with PCI Ver. 2.1 specifications. We recommend that you leave this item at the default value.

---

***Memory Parity Check******Default: Enabled***

This item enables a parity check during boot-up memory testing. Only set this item to enabled if you are using DRAM memory with parity.

## Integrated Peripherals Option

This option displays a list of items that defines the operation of some peripheral components on the system's input/output ports.

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software		
Integrated Peripherals		
Internal PCI/IDE	Both	Item Help Menu Level ▶
IDE Primary Master PIO	Auto	
IDE Primary Slave PIO	Auto	
IDE Secondary Master PIO	Auto	
IDE Secondary Slave PIO	Auto	
Primary Master UltraDMA	Auto	
Primary Slave UltraDMA	Auto	
Secondary Master UltraDMA	Auto	
Secondary Slave UltraDMA	Auto	
IDE Burst Mode	Enabled	
USB Controller	Enabled	
USB Keyboard Support	Disabled	
Onboard LAN	Enabled	
Onboard Sound	Enabled	
Onboard Modem	Enabled	
IDE HDD Block Mode	Enabled	
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2		

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

### Internal PCI/IDE

**Default: Both**

Use this item to enable or disable the PCI IDE channels that are integrated on this mainboard.

### IDE Primary Master PIO

**Default: Auto**

### IDE Primary Slave PIO

**Default: Auto**

### IDE Secondary Master PIO

**Default: Auto**

### IDE Secondary Slave PIO

**Default: Auto**

Each IDE channel supports a master device and a slave device. These four items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. You can choose Auto, to let the system auto detect which PIO mode is best, or you can install a PIO mode from 0-4.

### Primary Master UltraDMA

**Default: Auto**

### Primary Slave UltraDMA

**Default: Auto**

### Secondary Master UltraDMA

**Default: Auto**

### Secondary Slave UltraDMA

**Default: Auto**

Each IDE channel supports a master device and a slave device. This motherboard supports UltraDMA. UltraDMA technology provides faster access to IDE devices. If you install a device which supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this motherboard in order to use an UltraDMA device.

<b>IDE Burst Mode</b>	<b>Default: Enabled</b>
Use this item to enable a buffer for bus master PCI IDE transfers.	
<b>USB controller</b>	<b>Default: Enabled</b>
This item enables the onboard USB controller, so you can connect USB devices to the standard two USB ports on the board.	
<b>USB Keyboard Support</b>	<b>Default: Disabled</b>
This item enables the use of a USB keyboard.	
<b>Onboard LAN</b>	<b>Default: Enabled</b>
This item enables the integrated Ethernet capabilities. Your mainboard might have an optional integrated PCI LAN (network adapter), use this item to enable or disable it.	
<b>Onboard Sound</b>	<b>Default: Enabled</b>
This item enables the integrated audio capabilities.	
<b>Onboard Modem</b>	<b>Default: Enabled</b>
This item enables the integrated software modem capabilities.	
<b>IDE HDD Block Mode</b>	<b>Default: Enabled</b>
Block mode transfers can improve the access to IDE devices. Enable this item if your IDE devices support block mode transfers.	
<b>Onboard FDC Controller</b>	<b>Default: Enabled</b>
Use this item to turn on or off the floppy disk controller that is built into this mainboard.	
<b>Onboard Serial Port 1</b>	<b>Default: 3F8/IRQ4</b>
This item lets you disable the built-in serial port 1, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).	
<b>Onboard Serial Port 2</b>	<b>Default: Disable</b>
This item lets you disable the built-in serial port 2, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).	
<b>UART Mode Select</b>	<b>Default: IrDA</b>
<b>UR2 Duplex Mode</b>	<b>Default: Half</b>
This item defines the operation of serial port 2. In the Normal setting, serial port 2 is assigned to the external COM2 connector. If you have installed an optional infrared port, you must change the setting of this item to one of the Infrared settings (usually IrDA or FIR). These settings will disable the external COM2 serial port connector and assign the resources to the infrared device. If you have selected an IR mode, use the following item <i>UR2 Duplex Mode</i> to define if the IR port is full duplex or half duplex.	
<b>Onboard Parallel Port</b>	<b>Default: 378/IRQ7</b>
This item lets you disable the built-in parallel port, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).	

---

<b>Parallel Port Mode</b>	<b>Default: SPP</b>
<b>ECP Mode Use DMA</b>	<b>Default: 3</b>

---

This item defines the operation of the parallel port. As a default it is set to SPP (standard parallel port). If you are connected to a parallel device that supports the higher-performance EPP (enhanced parallel port) or the ECP (extended capabilities port) make the appropriate changes to this item. If you have changed the parallel port to ECP mode, use the following item *ECP Mode Use DMA* to assign a DMA channel to the port.

---

<b>Init Display First</b>	<b>Default: PCI Slot</b>
---------------------------	--------------------------

---

Use this item to define if your graphics adapter is installed in one of the PCI slots or select Onboard if you have a graphics system integrated on the mainboard.

---

<b>System Share Memory Size</b>	<b>Default: 8 MB</b>
---------------------------------	----------------------

---

This item defines the amount of system memory that will be shared and uses as video memory.

---

#### **Extended Graphics Memory**

This item displays the size of the extended A-DIMM memory used by the Video system for frame buffering.

---

## **Power Management Setup Option**

---

This option displays items that let you control the system power management. Modern operating systems take care of much of the power management. This mainboard supports ACPI (advanced configuration and power interface). The system has various power saving modes including powering down the hard disk, turning off the video, suspending to RAM, and a software power down that allows the system to be automatically resumed by certain events.

#### **Power Management Timeouts**

The power-saving modes can be controlled by timeouts. If the system is inactive for a time, the timeouts begin counting. If the inactivity continues so that the timeout period elapses, the system enters a power-saving mode. If any item in the list of *Reload Global Timer Events* is Enabled, then any activity on that item will reset the timeout counters to zero.

#### **Wake Up Calls**

If the system is suspended, or has been powered down by software, it can be resumed by a wake up call that is generated by incoming traffic to a modem, a LAN card, a PCI card, or a fixed alarm on the system realtime clock,

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software  
Power Management Setup

ACPI Suspend Type	S1(POS)	Item Help
Video Off Option	Susp,Stby → Off	Menu Level ▶
Video Off Method	DPMS Supported	
Switch Function	Break/Wake	
MODEM Use IRQ	3	
Hot Key Function As	Disable	
HDD Off After	Disable	
IRQ [3-7,9-15],NMI	Enabled	
IRQ 8 Break Suspend	Disabled	
Power Button Override	Instant Off	
RING/WOL/WOM WakeUp/PwrOn	Disabled	
PCI PME WakeUp/PwrOn	Disabled	
KB Power ON Password	Enter	
Power Up by Alarm	Disabled	
x Month Alarm	NA	
x Day of Month Alarm	0	
x Time (hh:mm:ss) Alarm	0 0 0	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

#### ACPI Suspend Type

**Default: S1 (POS)**

Use this item to define how your system suspends. In the default, S1(POS), the suspend mode is equivalent to a software power down. If you select S3 (STR), the suspend mode is a suspend to RAM – the system shuts down with the exception of a refresh current to the system memory.

#### Video Off Option

**Default: Susp,Stby → Off**

This item defines how the video is powered down to save power. As a default, this is set to Susp,Stby → Off, which means the video system will turn off whenever the system is suspended or in standby mode.

#### Video Off Method

**Default: DPMS Supported**

This item defines how the video is powered down to save power. As a default, this is set to DPMS (display power management software).

#### Switch Function

**Default: Break/Wake**

This item defines if pressing the power switch will cause the system to wake up from suspend or standby mode.

#### MODEM Use IRQ

**Default: 3**

If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to a mainboard Wake On Modem connector for this feature to work.

#### Hot Key Function As

**Default: Disable**

This item defines the function of an auxiliary power hot key on the system keyboard. Your keyboard must feature such a hot key for this function to work. When enabled, It can be set to power off or suspend the system.

---

**HDD Off After****Default: Disable**

You can set this item to a selection of timeouts from 1 to 15 minutes. The hard disk drive will power down if the selected timeout passes without any activity on the hard disk.

---

**IRQ [3-7,9-15], NMI****Default: Enabled**

You can set this item to enabled if you want the system to wake up from suspend or standby mode when activity is detected on a device using any of these IRQ addresses.

---

**IRQ 8 Break Suspend****Default: Disabled**

You can set this item to enabled if you want the system to wake up from suspend mode when activity is detected on a device using IRQ 8.

---

**Power Button Override****Default: Instant Off**

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the normal power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. Then you have to hold the power button down for four seconds to cause a software power down.

---

**Ring/WOL/WOM WakeUp/PwrOn****Default: Enabled**

If this item is enabled, it allows the system to resume from a software powerdown or a power-saving mode whenever there is an incoming call to an installed fax/modem or network adapter. You might have to connect the fax/modem and /or network adapter to a mainboard Wake On Modem and Wake On LAN connector for this feature to work.

---

**KB Power ON Password****Default: Enter**

This item can be used to prompt the user for a password when the system power is resumed by keyboard action.

---

**Power Up by Alarm****Default: Disabled**

If this item is Enabled, it allows you to set a date and time alarm that will automatically resume the system from a software power down. When you enable this feature, new setup items appear to let you set the alarm. Date (of Month) Alarm lets you select a day from 1 to 31. Time Alarm lets you select a time for the alarm in hours, minutes, and seconds.

## PNP/PCI Configuration Option

This option displays a table of items that configures how PNP (Plug and Play) and PCI expansion cards operate in your system.

CMOS Setup Utility - Copyright (C) 1984-1999 Award Software  
PnP/PCI Configurations

Reset Configuration Data	Disabled	Item Help
Resources Controlled By	Auto(ESCD)	Menu Level ▶  Default is Disabled. Select Enabled to reset Extended System Configuration Data ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
x IRQ Resources	Press Enter	
PCI/UGA Palette Snoop	Disabled	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

### **Reset Configuration Data**

**Default: Disabled**

If you enable this item and restart the system, any PNP configuration data stored in the BIOS setup is cleared from memory. New updated data is created.

### **Resources Controlled By**

**Default: Auto(ESCD)**

You should leave this item at the default Auto(ESCD). Under this setting, the system dynamically allocates resources to plug and play devices as they are required. If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the *IRQ Resources* and *Memory Resources* sub-menus.

In the *IRQ Resources* sub-menu, if you change any of the IRQ assignments to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press **Esc** to close the IRQ Resources sub-menu.

In the *Memory Resources* sub menu, use the first item Reserved Memory Base to set the start address of the memory you want to reserve for the ISA expansion card. Use the second item Reserved Memory Length to set the amount of reserved memory. Press **Esc** to close the Memory Resources sub-menu.

---

**PCI/VGA Palette Snoop****Default: Disabled**

This item is designed to overcome some problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

---

## PCI Health Status Option

---

On mainboards which support hardware monitoring, this item lets you monitor the parameters for critical voltages, critical temperatures, and fan speeds.

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software  
PC Health Status

	Item Help
Vcore 2.5V Vcc3 Vcc +12V SB3V -12V SB5V Voltage Battery CPU Temperature Board Temperature CPU Fan Speed Case Fan Speed	Menu Level ▶

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

If this option is active on your system, we recommend that you accept the default values for these items that are installed by the manufacturer.

## Frequency Control Option

This item allows you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.

CMOS Setup Utility - Copyright (C) 1984-1999 Award Software  
Frequency/Voltage Control

Auto Detect DIMM/PCI Clk	Enabled	Item Help
Spread Spectrum	Disabled	
CPU Host/SDRAM/PCI Clock	Default	Menu Level ▶
CPU Clock Ratio Jumpless	By H/W	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

---

### **Auto Detect DIMM/PCI Clk** **Default: Enabled**

When this item is enabled, BIOS will disabled the clock signal of free DIMM and PCI slots.

---

### **Spread Spectrum** **Default: Disabled**

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

---

### **CPU Host/SDRAM/PCI Clock** **Default: Default** **CPU Clock Ratio Jumpless** **Default: by H/W**

Use the *CPU Host/SDRAM/PCI Clock* to set the system bus frequency for the installed processor (usually 100 MHz or 66 MHz). Then use *CPU Clock Ratio* to set a multiple. The multiple times the system bus must equal the core speed of the installed processor e.g. **3.5 (multiple) x 100 MHz (system bus) = 350 MHz (installed processor clock speed)**. We recommend that you leave these items to there default values Default and H/W (Hardware defined)

---

## Load Fail-Safe Defaults Option

---

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the whole setup utility. Press the **Y** key and then **Enter** to install the defaults. Press the **N** key and then **Enter** to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install a fail-safe defaults for a specific option, select and display that option, and then press the **F6** key.

---

## Load Optimized Defaults Option

---

This option opens dialog box that lets you install optimized defaults for all appropriate items in the whole setup utility. Press the **Y** key and then **Enter** to install the defaults. Press the **N** key and then **Enter** to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press the **F7** key.

---

## Set Password

---

This item can be used to install a password. To install a password, follow these steps:

1. Highlight the item Set password on the main menu and press **Enter**.
2. The password dialog box appears.
3. If you are installing a new password, carefully type in the password. You cannot use more than 8 characters or numbers. The password will differentiate between upper case and lower characters. Press **Enter** after you have typed in the password. If you are deleting a password that is already installed just press **Enter** when the password dialog box appears.
4. The system will ask you to confirm the new password by asking you to type it in a second time. Carefully type the password again and press **Enter**, or just press **Enter** if you are deleting a password that is already installed.
5. If you typed the password correctly, the password will be installed.

## **Save And Exit Setup Option**

---

Highlight this item and press **Enter** to save the changes that you have made in the setup utility and exit the setup program. When the Save and Exit dialog box appears, press **Y** to save and exit, or press **N** to return to the setup main menu.

## **Exit Without Saving Option**

---

Highlight this item and press **Enter** to discard any changes that you have made in the setup utility and exit the setup program. When the Exit Without Saving dialog box appears, press **Y** to discard changes and exit, or press **N** to return to the setup main menu.

## Chapter 4: Software

### About the Software CD-ROM

---

The support software CD-ROM that is included in the mainboard package contains all the drivers and utility programs needed to properly run the bundled products. Below you can find a brief description of each software program, and the location for your mainboard version. More information on some programs is available in a README file, located in the same directory as the software.

**Note:** *Never try to install software from a folder that is not specified for use with your mainboard.*

Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual.

### Drivers and Software Installation

---

Insert the CD in the CD-ROM drive and click "Browse the CD title". This contains the mainboard model and information needed to locate the drivers for your mainboard.

Look for the mainboard model; then locate the drivers you want to install. The subfolders contain the README file giving directions to alternate folders for the appropriate software.

## Utility Software Reference

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All the utility software available from this page is Windows compliant. They are provided only for the convenience of the customer. The following software is furnished under license and may only be used or copied in accordance with the terms of the license.

**Note:** *These software(s) are subject to change at anytime without prior notice. Please refer to the support CD for available software.*

### **AWARD Flash Memory Utility**

This utility lets you erase the system BIOS stored on a Flash Memory chip on the mainboard, and lets you copy an updated version of the BIOS to the chip. Proceed with caution when using this program. If you erase the current BIOS and fail to write a new BIOS, or write a new BIOS that is incorrect, your system will malfunction. Refer to Chapter 3, *Using BIOS* for more information.

### **WinFlash Utility**

The Award WinFlash utility is a Windows version of the DOS Award BIOS flash writer utility. The utility enables you to flash the system BIOS stored on a Flash Memory chip on the mainboard while in a Windows environment. This utility is currently available for WINXP\ME\2000\98SE. To install the WinFlash utility, run WINFLASH.EXE from the following directory: \UTILITY\WINFLASH 1.51

### **PC-CILLIN 2002**

The PC-CILLIN 2002 software program provides anti-virus protection for your system. This program is available for Windows 2000/ME/98SE/XP and Windows NT. Be sure to check the readme.txt and install the appropriate anti-virus software for your operating system.

We strongly recommend users to install this free anti-virus software to help protect your system against viruses.

### **MediaRing Talk – Telephony Software**

To install the MediaRing Talk voice modem software for the built-in modem, go to the directory \UTILITY\MEDIARING TALK, then run MRTALK-SETUP72.EXE to install the application software.

### ***Super Voice – Fax/Modem Software***

To install the Super Voice voice, fax, data communication application for use with the built-in fax/modem, go to the directory \UTILITY\SUPER\_VOICE, then run PICSHELL.EXE to install the application software.

### ***PageABC***

The PageABC application software enables you to create your very own home page. To install the PageABC, go to the directory \UTILITYPageABC, and then run SETUP.EXE to install the application software.